

Remarks

The above Amendments and these Remarks are in reply to the final Office Action mailed October 8, 2010.

I. Summary of Examiner's Rejections

In the Office Action, Claims 1, 2, 5-9, 34 and 36 were rejected under 35 U.S.C. §112 second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 1, 2, 5-9, 12, 13, 16-20 and 31-37 were rejected under 35 U.S.C. §102(a) as being anticipated by Kampe et al. (U.S. Patent No. 6,854,069 hereinafter Kampe).

II. Summary of Applicant's Amendment

The present Reply amends Claims 1, 12 and 31, leaving for the Examiner's present consideration Claims 1-2, 5-9, 12-13, 16-20 and 31-37.

III. Claim Rejections under 35 U.S.C. § 112

Claims 1, 2, 5-9, 34 and 36 were rejected under 35 U.S.C. §112 second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicant respectfully submits that the claims have been amended to comply with the statutory requirement under 35 U.S.C. §112. Reconsideration thereof is respectfully requested.

IV. Claim Rejections under 35 U.S.C. § 102(a)

Claims 1, 2, 5-9, 12, 13, 16-20 and 31-37 were rejected under 35 U.S.C. §102(a) as being anticipated by Kampe.

Claim 1

Claim 1 has been amended to recite:

1. *A system for high availability clustering of a group of computer nodes, comprising:
a plurality of computers interconnected to create a cluster network, each computer including a software cluster server, a cluster database, and a set of resources of multiple resource types, including software application servers, wherein each software cluster server operating at one of the plurality of computers provides an application access to the set of*

resources on said computer, or at another one of the one or more computers interconnected to the cluster network;

a group leader that is designated from one of the plurality of computers, and the other computers are designated as members within the cluster network, said group leader maintaining a cluster configuration file to manage configuration information about the cluster network, including the set of resources on each one of the plurality of computers;

a resource interface provided by said software cluster server that provides an abstraction layer, said abstraction layer facilitates receiving requests by the software cluster server from the application, and communicates the requests to said set of resources;

a plurality of plugins that are plugged into the resource interface to provide a set of application-specific callbacks from the software cluster server to the set of resources, which application-specific callbacks facilitate communication of the requests from the application to the set of resources;

a communication protocol implemented by each computer in the cluster to communicate the set of resources available on said computer to the group leader, where upon receiving the requests from the application, the group leader

determines the availability of the set of resources on each one of the one or more computers by referencing the cluster configuration file, and

directs the request to the computer having the requested resource;

expands the system by adding additional computers with cluster servers and resource interfaces operating thereon when it is determined an amount of requests exceed a threshold.

Kampe discloses a method and system for achieving high availability in a networked computer system. (Abstract). As disclosed therein, the networked computer system includes nodes that are connected by a network. (Column 2, lines 29-30). The method includes using components and maintaining a desired level or levels of redundancy of the components. (Column 2, lines 30, 32). The components represent or correspond to hardware or software in the networked computer system and are high-availability aware. (Column 2, lines 32-34). Figure 3 depicts a physical component hierarchy among hardware components in a networked computer system, and Figure 4 depicts a tree diagram illustrating non-physical containment relationships or software component hierarchy among software components in a networked computer system. The software architecture can be viewed in terms of six areas: availability management, external management, component integration services, distributed system services, platform specific services and underlying operating system. (Column 2, lines 31-35). The distributed systems services may be used to enable applications to be spread throughout a networked computer system or a cluster of computers.

(Column 5, lines 56-58).

In the Office Action, it was asserted that Kampe discloses that each computer includes a software cluster server, a cluster database, and a set of resources of multiple resource types, including software application servers, wherein each software cluster server operating at one of the one or more of the computers provides an application access to the set of resources on said computer, or at another one of the one or more computers interconnected to the cluster network. It was further asserted that Kampe discloses that the resource interface accepts additional plugins that are plugged into the resource interface to provide application-specific callbacks from the software cluster to other resource types.

However, although Kampe appears to disclose a system having interconnected hardware, and a software architecture to provide high available services, including plug-in components (e.g. device drivers, protocols, applications, etc.) to enable applications to be spread throughout a networked computer system or a cluster of computers, Applicant respectfully submits that the interconnected hardware and software architecture of Kampe does not appear to disclose a group leader that is designated from one of the plurality of computers, while the other computers are designated as members within the cluster network, said group leader maintaining a cluster configuration file to manage configuration information about the cluster network, including the set of resources on each one of the plurality of computers. Rather, as disclosed in Kampe, nodes may cooperate to provide services, and if one of them fails, for example, another peer node may be capable of assuming its work.

Further, although Kampe discloses the use of plug-ins and distributed system services, Applicant respectfully submits that Kampe does not disclose a plurality of plugins that are plugged into a resource interface to provide a set of application-specific callbacks from the software cluster server to the set of resources, which application-specific callbacks facilitate communication of the requests from the application to the set of resources, as recited by Claim 1. Rather, Kampe discloses standard class-interfaces which allow components to interact with other applications, but the plugins disclosed in Kampe are not plugged into a resource interface. Nor are the plugins disclosed in Kampe provide a set of application-specific callbacks from the software cluster server to the set of resources to facilitate communication of the requests from the application to the set of resources.

Additionally, to more clearly recite the embodiment therein, Claim 1 has been amended to recite that each computer in the cluster communicates the set of resources available on said computer to the group leader, wherein when the requests from the application are received, the group leader determines the availability of the set of resources on each one of the one or more

computers by referencing the cluster configuration file, and directs the request to the computer having the requested resource; expands the system by adding additional computers with cluster servers and resource interfaces operating thereon when it is determined an amount of requests exceed a threshold.

Applicant respectfully submits that Kampe instead discloses an availability management framework that assigns available components to act as standbys for active components, and introduces the active and standby components to one another. (Column 9, lines 31-33). The active component may then use message based checkpoints or the cluster distributed checkpoint service to keep the standby component up-to-date. (Column 9, lines 33-36). When an active component fails, the availability management framework automatically instructs the standby component to take over. (Column 9, lines 33-36). Kampe does not disclose a group leader that determines the availability of the set of resources on each one of the one or more computers by referencing the cluster configuration file. Or for example, a group leader that expands the system by adding additional computers with cluster servers and resource interfaces operating thereon when it is determined an amount of requests exceed a threshold, as recited in Claim 1.

In view of these comments, Applicant respectfully submits that Claim 1, as currently amended, is neither anticipated by, nor obvious in view of Kampe. Reconsideration thereof is respectfully requested.

Claims 12 and 31

The comments provided above with respect to Claim 1 are hereby incorporated by reference. Claims 12 and 31 have been amended to recite features similar to those described above with respect to Claim 1. For similar reasons as provided above with respect to Claim 1, Applicant respectfully submits that Claims 12 and 31 as amended, are likewise neither anticipated by, nor obvious in view of Kampe. Reconsideration thereof is respectfully requested.

Claims 2, 5-9, 13, 16-20 and 32-37

Claims 2, 5-9, 13, 16-20 and 32-37 depend from and include all of the features of Claims 1, 12 or 31. These claims are not addressed separately, but it is respectfully submitted that the claims are allowable at least as depending from an allowable independent claim, and further in view of the amendments to the independent claims, and the comments provided above. Reconsideration thereof is respectfully requested.

V. Conclusion

In view of the above amendments and remarks, it is respectfully submitted that all of the claims now pending in the subject patent application should be allowable, and reconsideration thereof is respectfully requested. The Examiner is respectfully requested to telephone the undersigned if he can assist in any way in expediting issuance of a patent.

The Commissioner is authorized to charge any underpayment or credit any overpayment to Deposit Account No. 06-1325 for any matter in connection with this response, including any fee for extension of time, which may be required.

Respectfully submitted,

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By: /Adam T. Hipp/
Adam T. Hipp
Reg. No. 60,344

Customer No. 80548
FLIESLER MEYER LLP
650 California Street, 14th Floor
San Francisco, California 94108
Telephone: (415) 362-3800
Fax: (415) 362-2928